FREECOM

USER MANUAL

TOUGH DRIVE

EXTERNAL MOBILE HARD DRIVE / 2.5" / USB 2.0

WIN & MAC

Rev. 848

EN

Dear user!

Thank you for choosing the **Freecom ToughDrive** as an external hard drive. For optimal use and performance we advise you to read this manual carefully before using this product.

Freecom Technologies • Germany
www.freecom.com

Contents of the box

Please check the contents of the box; the following items should be included:

- external Freecom ToughDrive*
- Manual, safety manual and application software pre-installed on the hard drive
- Quick Install Guide

* Operation without power pack possible, power supply occurs over the USB port.
When the power provided by the USB port is not sufficient, visit www.freecom.com/support for an optional AC adapter.

Warning !

All rights reserved. The products named in this manual are only used for identification purposes and may be trademarks or registered trademarks of the respective companies.
This device was designed for home or office use.

Warning! This device is equipment complying with EN55022 class A. This equipment can cause radio disturbances in a residential area. If this is the case, the user has to take appropriate measures and assume all responsibility and costs for. It may not be used near or with any life-sustaining systems.

Freecom cannot be made liable for any damages, loss of data or damage following thereof -whatsoever (including, without limitation, damages for loss of business profits, business interruption, loss of business information, or other pecuniary loss) arising out of the use of or inability to use this Freecom product, even if Freecom has been advised of the possibility of such damages.

We reserve the right to upgrade our products in keeping with technological advances.

EN

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General Information

The following hardware and software requirements must be fulfilled to ensure trouble-free operation.

System requirements

In order to use the Freecom ToughDrive, following components are needed:

PC:

- Intel Pentium III / AMD Duron 900 MHz or higher
- 256 MB RAM (Vista: 512 MB RAM) or higher
- Available USB 2.0 or USB 1.1 port*
- Internet connection for online warranty registration and software updates and downloads
- Operating system: Windows 2000, Windows XP, Windows Vista

Mac:

- PowerPC G3/G4/G5, Mac Book Pro or Intel Mac
- 256 MB RAM or higher
- Available USB 2.0 or USB 1.1 port*
- Internet connection for online warranty registration and software updates and downloads
- Operating system: Mac OS X v10.4 or higher

* To achieve optimal performance from the Freecom ToughDrive your PC should be equipped with an USB 2.0 port.

Precautionary measures

To ensure that your Freecom ToughDrive functions properly, please take note of the following precautions. If these are not followed, you may void your warranty and damage the Freecom ToughDrive.

- Safely remove the Freecom ToughDrive via your operating system (the "unplug or eject hardware" option in the Windows taskbar) before disconnecting the USB cable or power cable and before switching off the device. Failing to do so may result in data loss.
- Do not drop the Freecom ToughDrive (more than 2 m) or expose it to other kinds of sudden mechanical shocks as this may result in data loss and damage to the Freecom ToughDrive.
- Do not use the Freecom ToughDrive when the ambient temperature is below 10°C or above 35°C.
- If the Freecom ToughDrive is moved from a cool environment to a warmer environment, please allow the drive to acclimatize to the ambient temperature before operating the device. Failing to do so may lead to condensation within the drive enclosure, which in turn may cause the drive to malfunction.
- Do not place liquids or drinks on the Freecom ToughDrive. When liquids are spilled and get in contact with the electronics within the drive enclosure, it will damage the drive and will cause the drive to malfunction.
- Do not use the Freecom ToughDrive in a dusty environment. Dust inside the enclosure may damage the internal electronics and result in drive malfunction.
- Opening the Freecom ToughDrive will void the warranty.
- Since USB 2.0 is backwards compatible with USB 1.1, the Freecom ToughDrive can be connected to all USB ports. When connected to a USB 1.1 port, however, the performance (data transfer rate) of the Freecom ToughDrive will be much lower than when the drive is connected to a USB 2.0 port.

On some computers it might occur that the USB port does not deliver enough power to the ToughDrive. In that case, you need to use an external power supply.

For safety reasons you must only use Freecom's Power Supply Part.No. 30921. Don't use any other power supply!

Freecom ToughDrive

The hi-speed data transfer through the USB 2.0 interface makes it ideally suitable for data-storage, file sharing, backup, archiving, audio playback and all applications that need fast file access.

For your convenience, the Freecom ToughDrive has been partitioned (1 partition) and pre-formatted (FAT32 file system). The FAT32 format ensures maximum interchangeability of the Freecom ToughDrive between different computers. Should you choose to format the Freecom ToughDrive in another file system (e.g. NTFS), please be aware of possible problems when connecting the Freecom ToughDrive to another computer than the one you used for formatting.

Chapter 1: Hardware Installation

Connect the interface cable to the Freecom ToughDrive.

Since USB 2.0 is backwards compatible with USB 1.1, the Freecom ToughDrive can be connected to all USB ports. When connected to a USB 1.1 port, however, the performance (data transfer rate) of the Freecom ToughDrive will be much lower than when the drive is connected to a USB 2.0 port.

On some computers it might occur that the USB port does not deliver enough power to the ToughDrive. In that case, you need to use an external power supply.

For safety reasons you must only use Freecom's Power Supply Part.No. 30921. Don't use any other power supply!

Chapter 2: Driver Installation

Under Windows 2000 / XP / Vista and Mac OS X a separate Freecom driver is not required. The drivers will be installed automatically by the operating system after plugging in the Freecom ToughDrive into the USB port of the computer.

Chapter 3: Installation of the application software

3.1 Installation software PC

1. Click on "StartPC.exe" in the main directory of the hard drive. The Freecom start menu opens.

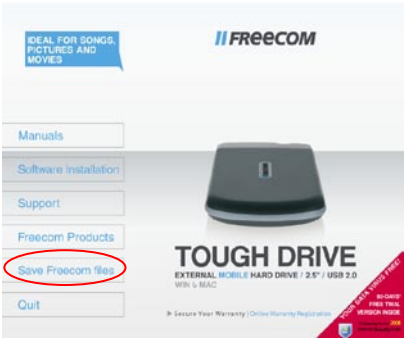
2. Click on "Software Installation" -> "NTI Shadow", "NTI Ripper" or other software. The installation starts now. Follow the instructions on the screen, confirm with "Next" in order to continue with the installation.

3.1.1 Saving Freecom data

The user manuals and complementary software (when applicable) are pre-loaded onto the hard drive. We recommend that you save these files to your computer ("My Documents"/"Freecom"), to always have a backup of these files in case you (accidentally) reformat the drive or delete these files from the drive.

Saving these files from the external hard drive to your computer is easy:

1. Click on the button „Save Freecom files“.
2. All provided data on the Freecom hard drive will be saved to the folder "Freecom" in "My Documents".



3.2 Installation software Mac

1. Click on "Start MAC" in the main directory of the hard drive. The Freecom start menu opens.

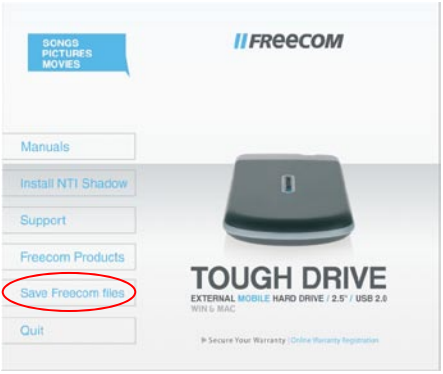
2. Click on "Install NTI Shadow". The installation starts now. Follow the instructions on the screen, confirm with "Next" in order to continue with the installation.

3.2.1 Saving Freecom data

The user manuals and complementary software (when applicable) are pre-loaded onto the hard drive. We recommend that you save these files to your computer ("Documents"/ "Freecom"), to always have a backup of these files in case you (accidentally) reformat the drive or delete these files from the drive.

Saving these files from the external hard drive to your computer is easy:

1. Click on the button "Save Freecom files".
2. All provided data on the Freecom hard drive will be saved to the folder "Freecom" in "Documents".



Chapter 4: Freecom Hard Drive Protection Tool

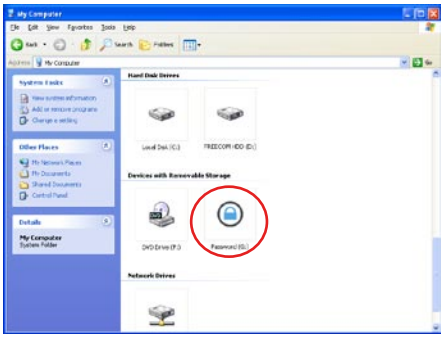
4.1 Using the Freecom Hard Drive Protection Tool (PC)

Your Freecom ToughDrive is equipped with a password protection feature. This provides the best possible protection. Your data is always protected, even if the internal hard drive is taken out of the enclosure and connected to a computer, you still will not be able to access the data.
If your PC is shut down or sent to hibernation, we recommend to completely disconnecting the ToughDrive from your PC in order to reactivate the password protection. Some PCs keep USB devices supplied with power when being in hibernation mode, therefore you remain logged in with your password.

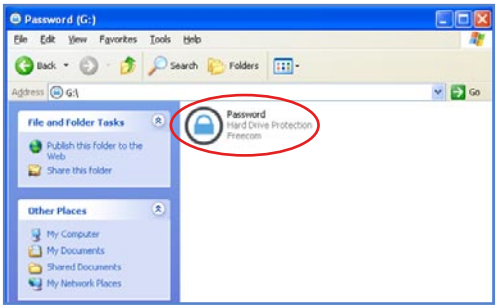
4.1.1 Configuring the password protection

1. Connect your Freecom ToughDrive to your PC. A Hard Disk Drive (“FREECOM HDD”) and a Virtual CD-ROM Drive (“Password”) will appear in “My Computer”.

   The Virtual CD-ROM Drive is an undeletable partition on your ToughDrive on which the Freecom Hard Drive Protection software is stored. This ensures that you always have the password protection application available when needed, it can not be accidentally deleted.



2. If the virtual CD-ROM drive does not automatically open after the hard drive has been connected, double-click on the virtual CD ROM drive icon (“Password”) to open it.



3. Double-click on the „Password.exe“ symbol to run the Freecom Hard Drive Protection software. The Hard Drive Protection Wizard will open. Click “Next” to proceed.

4. Enter a password. This password will be required to access the protected partition. Confirm the password in the second field and click “Next”.

5. Your hard drive is now protected with a password. Click “Finish” to exit the wizard.

Accessing the password-encrypted hard drive

1. Open the virtual CD-ROM Drive and double-click on “Password.exe”. The Freecom Hard Drive Protection tool opens.
2. Enter your password and click “Finish”. Your password-protected hard drive will now be accessible in “My Computer”.

I lost my password, what can I do now?

If you lose your password, you will not be able to access your data anymore. The only way to continue using your ToughDrive is to erase and format the hard drive.

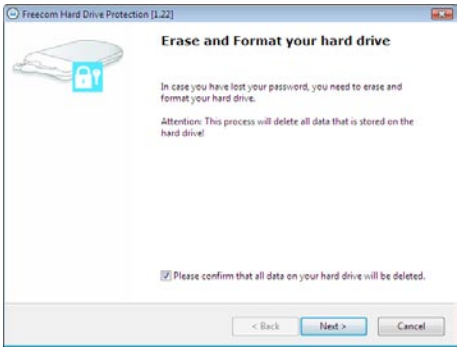
Attention! When erasing and formatting the hard drive, all data previously stored on the drive will be erased. All data on the drive will be deleted!

Follow these steps to erase and format your hard drive:

1. Run “Password.exe” from the virtual CD-ROM Drive.

2. Click on “Lost your password?” and confirm that you want to start the “Erase and Format Hard Disk Wizard”.

3. To continue, you have to confirm that all data on your hard disk will be deleted. Click on “Next” to continue.



4. In a final step, you have to confirm once again that you want to erase and format the hard disk. Clicking on “Yes” in this step will irreversibly delete all your data. This might take up to two hours.

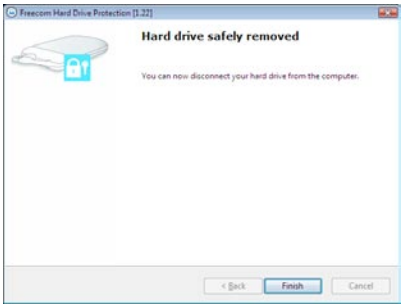
Removing the password encryption

It is possible to remove the password protection feature, meaning that the data on the drive will always be visible when you connect the drive.

1. Make sure you already run the “Password.exe” to have access to your protected data.
2. Once you have access to your protected data, run the “Password.exe” again and select “Remove password encryption”. Click on “Next” to continue.

3. Enter your password and click on “Next”.

4. The password protection will now be removed and you will always have access to your data.



4.2 Using the Freecom Hard Drive Protection Tool (Mac)

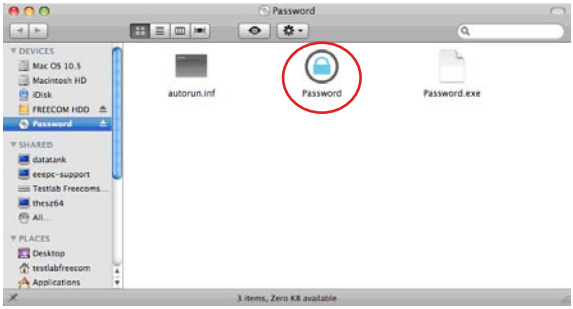
Your Freecom ToughDrive is equipped with a password protection feature. This provides the best possible protection. Your data is always protected, even if the internal hard drive is taken out of the enclosure and connected to a computer, you still will not be able to access the data.
If your Mac is shut down or sent to hibernation, we recommend to completely disconnecting the ToughDrive from your Mac in order to reactivate the password protection. Some Macs keep USB devices supplied with power when being in hibernation mode, therefore you remain logged in with your password.

4.2.1 Configuring the password protection

1. Connect your Freecom ToughDrive to your Mac. A Hard Disk Drive ("FREECOM HDD") and a Virtual CD-ROM Drive ("Password") will appear.

   The Virtual CD-ROM Drive is an undeletable partition on your ToughDrive on which the Freecom Hard Drive Protection software is stored. This ensures that you always have the password protection application available when needed, it can not be accidentally deleted.

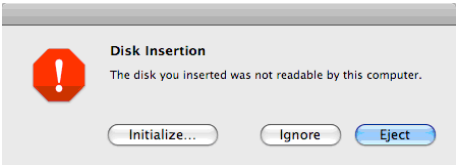
2. Open the CD-ROM drive and double-click on "Password".



3. Enter a password. This password will be required to access the protected partition. Confirm the password in the second field and click on “OK”.

Accessing the password-encrypted hard disk

1. Connect your Freecom ToughDrive to your Mac. A window will open, stating that the inserted disk is not readable. Click on “Ignore”.



2. Run “Password” from the CD-ROM drive. You will be prompted to enter your password to access the hard drive. Enter your password and click on “OK”. You will have full access to your ToughDrive now.

I lost my password, what can I do now?

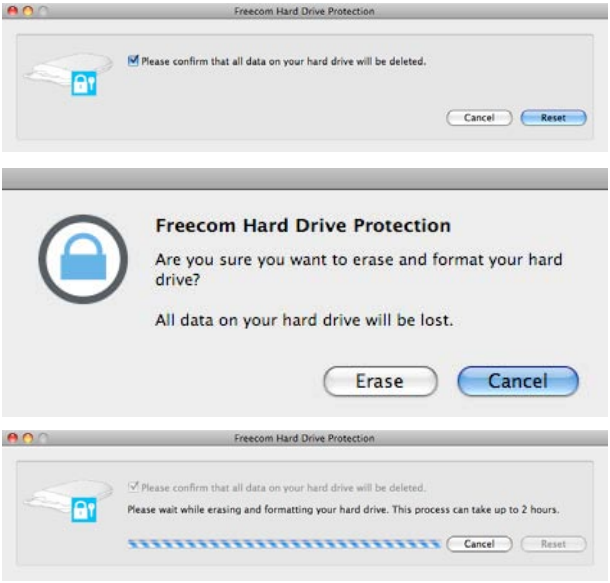
If you lose your password, you will not be able to access your data anymore. The only way to continue using your ToughDrive is to erase and format the hard drive.

Attention! When erasing and formatting the hard drive, all data previously stored on the drive will be erased. All data on the drive will be deleted!

Follow these steps to erase and format your hard drive:

1. Run "Password" from the virtual CD-ROM Drive and click on "Lost password". You will be asked if you want to erase and format your hard drive. Click on "Continue".

2. Check the box to confirm that all data on your hard disk will be deleted and click on "Erase". Your hard disk will be erased and formatted, this might take up to two hours.



Removing the password encryption

It is possible to remove the password protection feature, meaning that the data on the drive will always be visible when you connect the drive.

1. Make sure you already run “Password” to have access to your protected data.
2. Once you have access to your protected data, run “Password” again and select “Remove password protection”.

3. Enter your password and click on “OK”.
4. The password protection will now be removed and you will always have access to your data.

Chapter 5: Using Freecom Turbo USB 2.0 (only PC)

By installing the Turbo USB 2.0 driver for your ToughDrive, the data transfer rate can be significantly increased (up to 40% faster transfer speed compared to standard High-Speed USB).

Enabling the Turbo USB 2.0 driver

1. Connect the Freecom ToughDrive to your PC.
2. Run "Start.exe" from your ToughDrive and go to Software Installation -> Freecom Turbo USB 2.0.
3. The Freecom Turbo USB 2.0 Wizard will open.

4. Check the drive and click on "Configure" to enable the Turbo USB2.0 driver for the Freecom ToughDrive.

Disabling the Turbo USB 2.0 driver

5. Connect the Freecom ToughDrive to your PC.
6. Run "Start.exe" from your ToughDrive and go to Software Installation -> Freecom Turbo USB 2.0.
7. The Freecom Turbo USB 2.0 Wizard will open. Uncheck the drive and click on "Configure" to disable the Freecom Turbo USB 2.0 driver for the Freecom ToughDrive.

Chapter 6: Partitioning your Freecom ToughDrive

6.1 General information

Your Freecom ToughDrive was partitioned and formatted to provide you with the maximum available capacity and compatibility. FAT32 was chosen as file system to assure that you will be able to read your files on any PC. It is recommended not to change the current configuration of your Freecom ToughDrive.

For some users another file system might fit better for their needs. This manual describes current limitations of most common file systems and Instructions to enable you to adapt the Freecom ToughDrive to your needs.

6.2 File System features

Please refer to the tables below for an overview:

File systems supported by different operating systems

File system / Operating system	FAT	FAT32	NTFS	HFS+
Windows 2000	yes	yes	yes	no
Windows XP / Vista	yes	yes	yes	no
Mac OS X	yes	yes	yes (only read)	yes

Maximum size of a partition

File system / Operating system	FAT	FAT32	NTFS	HFS+
Windows 2000	4 GB*	32 GB	16 TB	-
Windows XP / Vista	4 GB*	32 GB	16 TB	-
Mac OS X 10.1.x	-	128 GB	-	2 TB
Mac OS X 10.2.x	-	128 GB	-	8 TB
Mac OS X 10.3.x	-	(-> 128 GB)	-	16 TB
Mac OS X 10.4.x	-	(-> 128 GB)	-	16 TB
Mac OS X 10.5.x	-	(-> 128 GB)	-	16 TB

* FAT partitions larger than 2 GB can only be administrated by Windows 2000 / XP / Vista.

Example for different partitions with different file systems on one Freecom ToughDrive

File system / Total size of Freecom ToughDrive	NTFS	FAT32
80 GB	60 GB	20 GB

Note: On NTFS formatted hard disks can only be written under Windows 2000 / XP / Vista. Under MacOSX data can only be read.

The example above is a good solution for Windows 2000 / XP / Vista users who sometimes exchange data with Macs.

For storing the data under Windows 2000 / XP / Vista both partitions can be used. As the NTFS file system can only be read by Mac data to be used on these operating systems must be stored on the FAT32 partition.

Please follow the steps below to adapt the ToughDrive for your needs.

6.3 Partitioning your ToughDrive under Windows 2000 / XP / Vista

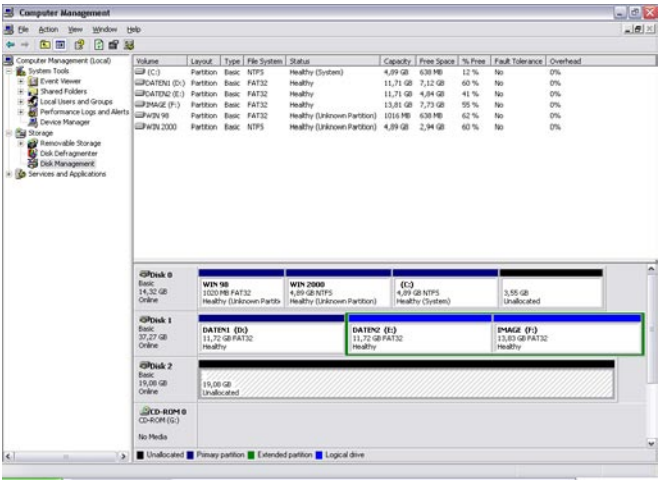
6.3.1 Deleting a partition on the Freecom ToughDrive

1. Click with the right mouse button on the "My Computer" icon on your desktop.
2. Select the option "Manage".
3. Select the option "Storage" -> "Disk Management".
4. Choose your external ToughDrive and right-click on the partition.
5. Select "Delete Partition" and confirm by clicking on "Yes". The partition will be deleted now.

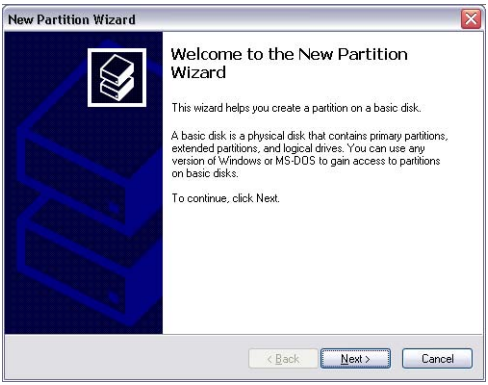
6.3.2 Creating a partition on the Freecom ToughDrive

The following steps will guide you through the process of creating partitions on your Freecom ToughDrive. After this procedure your ToughDrive will be ready for use and it will be allocated a drive letter.

1. Click with the right mouse button on the "My Computer" icon on your desktop.
2. Select the option "Manage".
3. Select the option "Storage" -> "Disk Management".
4. Choose the hard disk, which is "unallocated". Ensure that the entire drive is "unallocated".

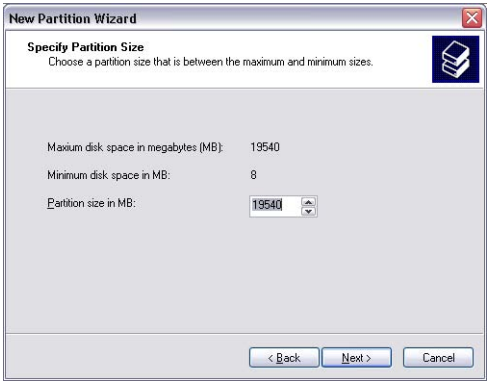


5. Click with the right mouse button on the "unallocated" area and select the option "New Partition" (Windows 2000: "Create Partition Wizard"). The "New Partition Wizard" opens. Click on "Next".



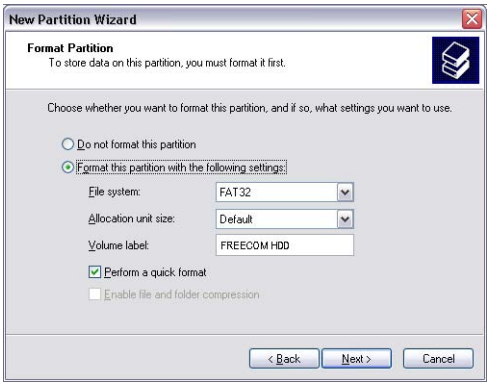
6. Select "Primary partition" and click on "Next".

7. Now you can adjust the size of your partition. Click on "Next" if only one partition is to be created. See next chapter (Creating two or more partitions on the Freecom ToughDrive under Windows 2000 / XP / Vista) how to create more than one partition.

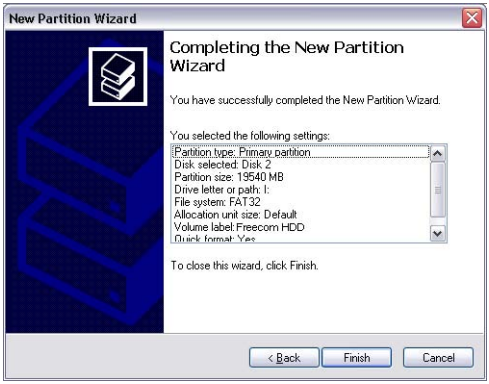


8. Assign a drive letter to your hard disk. Normally you can use the default options. Click on "Next".

9. Select the formatting option "Format this partition with the following settings". Choose either "FAT32" or "NTFS", the "Allocation unit size" should remain on "Default". Finally select "Perform a quick format" and click on "Next".



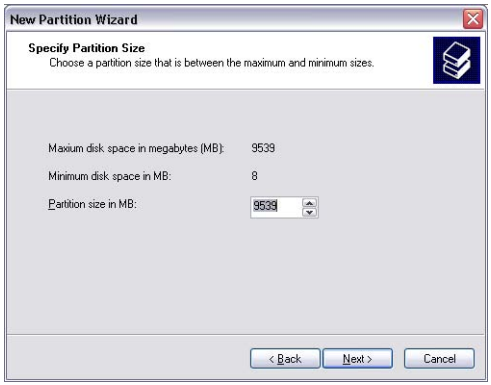
10. Click on "Finish" to complete the partitioning of your Freecom ToughDrive. Your Freecom ToughDrive will be formatted now and is ready-to-use afterwards.



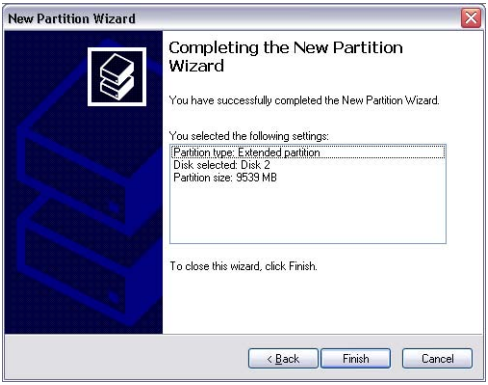
6.3.3 Creating two or more partitions on the Freecom ToughDrive under Windows 2000 / XP / Vista

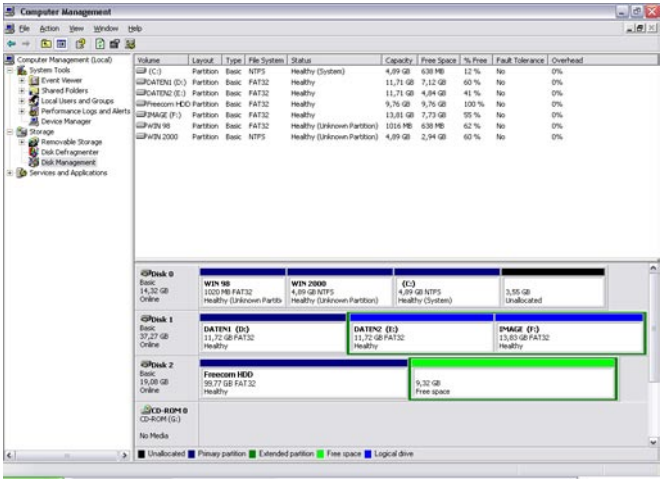
1. Repeat the steps from the previous chapter (Creating a partition on the Freecom ToughDrive under Windows 2000 / XP / Vista) for creating the first partition.
2. Click with the right mouse button on the "My Computer" icon on your desktop.
3. Select the option "Manage".
4. Select the option "Storage" -> "Disk Management".
5. Right-click on the unallocated space of your Freecom ToughDrive and select the option "New partition" (Windows 2000: "Create partition"). The "New Partition Wizard" (Windows 2000: "Create Partition Wizard") opens. Click on "Next".
6. Select "Extended partition" and click on "Next".

7. Now you can adjust the size of your partition. Enter the size and click on "Next".

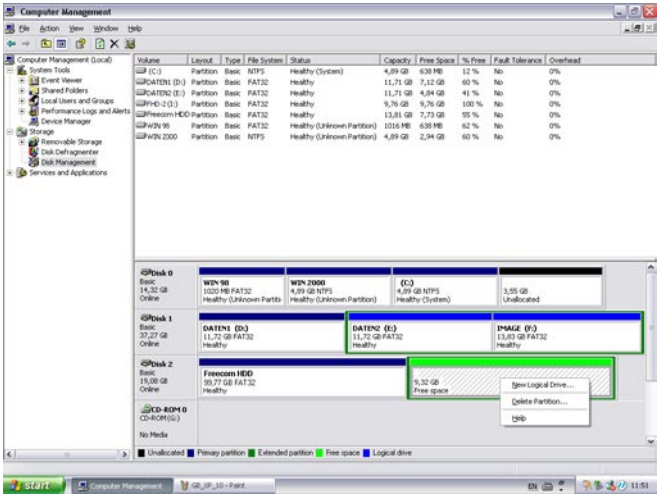


8. Click on "Finish" to create the "Extended partition". The unallocated space now changed to "Free space".





9. Right-click on "Free Space" and select "New Logical Drive" (Windows 2000: "Create Logical Drive"). The "New Partition Wizard" (Windows 2000: "Create Partition Wizard") opens. Click on "Next".

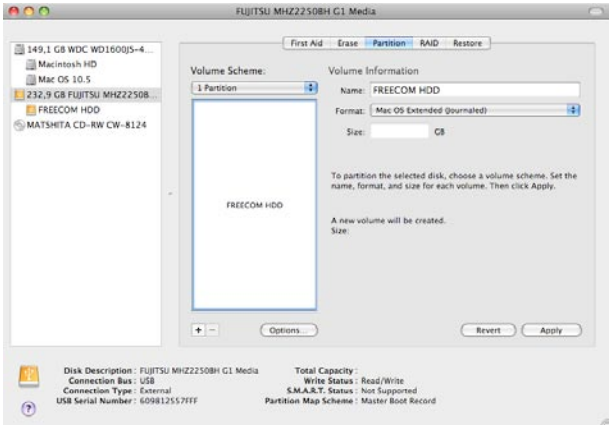


10. "Logical drive" is already selected. Click on "Next".
11. Specify the partition size and click on "Next".
12. Assign a drive letter and click on "Next".
13. Select the formatting option "Format this partition with the following settings". Choose either "FAT32" or "NTFS", the "Allocation unit size" should remain on "Default". Finally select "Perform a quick format" and click on "Next".
14. Click on "Finish" to complete partitioning. Your partition will be formatted now and is ready-to-use.

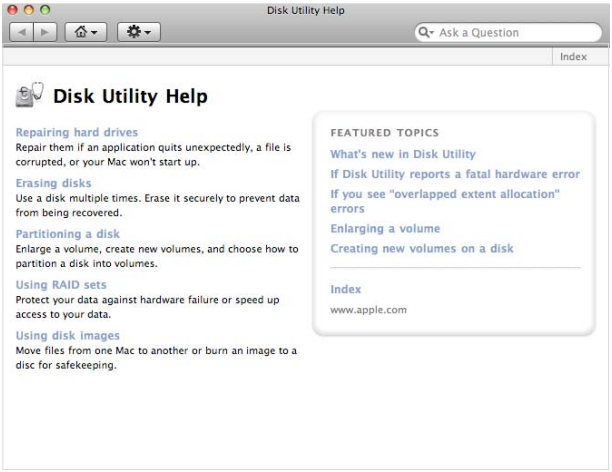
Note: If you select NTFS as file system, the data of your ToughDrive can be read only under Mac OS X. There is no possibility to write data.

6.4 Partitioning your Freecom ToughDrive under Mac OS X

1. Open the "Disk Utility". This can be found in "Applications" —> "Utilities".
2. Click on the tab "Partition".



Here you can setup the partition settings and partition the drive according to your settings (e.g. Mac OS Extended). Detailed information how to use the Disk Utility can be found in the help:



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